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## PATENT ABSTRACTS OF JAPAN

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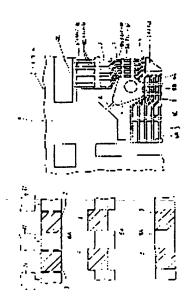
**NAKANO SEIJI** 

### (54) LEAD FRAME AND SEMICONDUCTOR DEVICE USING IT

#### (57)Abstract:

PURPOSE: To prevent a punch from being worn away by a method wherein a tie-bar part is pushed out from one side face without being stamped completely, its one part is cut and said pushed-out part is shaped by being pushed back from the other side face so that the tiepar part can be separated and removed, e.g., by being pressed comparatively slightly by using the punch.

CONSTITUTION: A square die pad 2 is arranged in the central part of a lead frame 1; support bars 4 are stretched in diagonal directions from its four corners; tip parts are shaped collectively together with a lead frame disk 1a; intermediate parts act as reinforcing sheets 5. Ends of lead parts 3 face side edges of the die pad 2; tie-bar parts 6AW6D are shaped in parallel in such a way that intermediate parts or end parts of the lead parts 3 are interlinked with one another. The tiebar parts 6AW6D are pushed out by about one-third by using a metal



mold when the lead frame is formed; then, when they are pushed back to original positions, the intermediate parts are not cut; both upper parts and lower parts are cut. A chip is fixed to the die pad 2; wires are bonded to the lead parts 3; a resin is molded. After the resin has been solidified, prescribed tiebar parts are pressed slightly by using punches 11, and leads 3W3 can be separated easily.

#### LEGAL STATUS

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